



Risks and Prototypes - Release B

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Risks and Prototypes



- **ECS Priority Risk List**
- **Release B Specific Risks**
- **Release B Technology/Design Deltas**
- **Prototypes/Studies for Release B**

ECS Priority Risk List from PDR



Push and Pull

- U-4 Processing and Storage of Standard Products
- S-7 Production Planning and Scheduling
- U-1 Number and Activity of Users
- T-7 Data Base Management Systems

Infrastructure

- A-7 CSS Performance Overhead
- T-11 CSMS Services by Platform

Archive Storage

- T-5 Cost Effective Storage Technology
- T-4 COTS Hierarchical Storage Management
- T-8 Scalability & Maintainability of Archive

System Development

- A-6 COTS Full Life Cycle Cost and Management
- P-3 Compressed Development Schedule
- P-7 Operations Concept and Multi-Segment Integration

Release B Risk List



- **Release B Subset of ECS Program Risks**
 - **Scalability of Processing Design**
 - **Production Planning and Scheduling**
 - **CSS Performance Overhead**
 - **Cost Effective Storage Technology**
 - **COTS Full Life Cycle Cost and Management**
 - **Compressed Development Schedule**
 - **Operations Concept and Multi-Segment Integration**

- **Release B Specific Risks**
 - **Release A Dependencies**
 - **Operational Transition from A to B**
 - **Maintenance of Metadata & Schema**
 - **DAS Middle Engine**

Release B Technology & Design Deltas



- LIM and DIM capabilities
- Support of other query languages in addition to ODL
- Synchronization of production among various sites
Significantly higher reprocessing rate
- 3-Tier Architecture for Archive
- Separation of Volume and File Servers in Data Server
- Accounting and Billing
- Additional DCE Services

Mapping Release B Risks to Prototypes and Studies

Prototypes and Studies	Subset of ECS Risks							Rel B Specific				Technology & Design Deltas							
	E-1	E-2	E-3	E-4	E-5	E-6	E-7	B-1	B-2	B-3	B-4	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8
• CIDM																			
– Local Information Manager (LIM)																			
– Data Dictionary - PW1 Search Mockups																			
– Languages and Protocol Study																			
• PDPS																			
– Planning & Scheduling COTS Evaluation																			
– Science Software Execution Prototype																			
• DIS																			
– Storage Technology Insertion Plan																			
– Network Attached Storage Prototype																			
– Data Server Prototype in EP6																			
• MSS																			
– Accounting & Billing Working Group																			
– Accounting & Billing COTS Evaluation																			
• CSS																			
– ORB & Object Service Abstraction Prototype																			
– CSS Performance Testing (Sockets & RPC)																			
• System or Multiple Subsystems																			
– Infrastructure Framework (extensions for B)																			
– DAO Architecture Definition																			
– ILN for Release B																			
– Release Transition Planning																			
– COTS Analysis & Modeling Report																			
– Development Effort Modeling																			
– Ops Concept Document Revision																			

Subset of ECS Risks

E-1	Scalability of Processing Design
E-2	Production Planning and Scheduling
E-3	CSS Performance Overhead
E-4	Cost Effective Storage Technology
E-5	COTS Full Life Cycle Cost and Management
E-6	Compressed Development Schedule
E-7	Ops Con and Segment Integration

Release B Specific

B-1	Release A Dependencies
B-2	Operational Transition from A to B
B-3	Schema Maintenance
B-4	DAS Middle Engine

Technology & Design Deltas

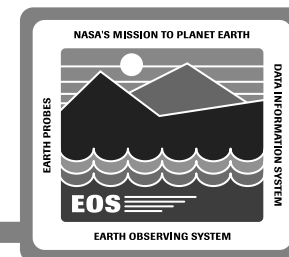
T-1	LIM and DIM
T-2	Query languages
T-3	Synchronization of production across Sites
T-4	Higher reprocessing rate.
T-5	3-tier archive
T-6	Separation of Volume and File Servers
T-7	Accounting and billing
T-8	Additional DCE services

Prototypes & Studies to Mitigate Release B Risks (1 of 4)



- **CIDM**
 - **Local Information Manager (LIM) Prototype**
 - » In-process, complete by CDR-A
 - **Data Dictionary - Search Mockups in PW1**
 - » PW1 in May 1995
 - **Earth Science Languages and Protocol Study**
 - » Proposed
- **PDPS**
 - **Planning & Scheduling COTS Evaluation**
 - » COTS selection by May 1995
 - **Science Software Execution Prototype**
 - » Next phase complete by June 1995: examining HPF, FORTRAN 90

Prototypes & Studies to Mitigate Release B Risks (2 of 4)



- **DIS**
 - **Storage Technology Insertion Plan**
 - » Revision for CDR-A
 - **Network Attached Storage Prototype**
 - » In-process, Complete by CDR-A
 - **Data Server Prototype in EP6**
 - » EP6 delivery November 1995

Prototypes & Studies to Mitigate Release B Risks (3 of 4)



- **MSS**
 - **Accounting and Billing Working Group**
 - » Discuss policy and requirements, to be initiated
 - **Accounting & Billing COTS Investigation**
 - » WWW page by ECS Tech Assessment on COTS requirements
- **CSS**
 - **ORB & Object Service Abstraction Prototype**
 - » Developers Workshop, May 1995
 - **CSS Performance Testing (Sockets & RPC)**
 - » Initiate in summer, complete by CDR-A

Prototypes & Studies to Mitigate Release B Risks (4 of 4)



System or Multiple Subsystems

- **Infrastructure Framework**
 - » Extensions for Release B interfaces
- **DAO Architecture Definition**
 - » Ongoing DAO/ECS Discussions
- **ILN for Release B**
 - » Includes dependencies on Release A
- **Release Transition Planning**
 - » Presentation at DAAC Managers Meeting
- **COTS Analysis & Modeling Report**
 - » New CDRL to be delivered quarterly
- **Development Effort Modeling**
 - » COTS savvy modeling tool (SEER) plus ECS customization
- **Operations Concept Document Revision**
 - » see next RIR presentation